

Applicant : Clair Hartmann-Thompson
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In the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Canceled)
2. (Canceled)
3. (Previously presented) A composite material for sensing an analyte, comprising:
a polymer matrix which includes a polymer selected from polycarbosilanes, polycarbosiloxanes and polycarbosilazenes; and
a solid particulate filler dispersed in the polymer matrix, the solid particulate filler having functional groups capable of interacting with the analyte, in which the solid particulate filler is a functionalized filler selected from clays, synthetic fibers, aluminum hydroxide, calcium silicate, zinc oxide, glass fiber, silica, alumina and alumina-silica.
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Previously presented) A composite material for sensing an analyte, comprising:
a polymer matrix; and
a solid particulate filler dispersed in the polymer matrix, the solid particulate filler having functional groups capable of interacting with the analyte, wherein the solid particulate filler is functionalized with hydrogen bond acidic groups, wherein the hydrogen bond acidic groups are selected from phenolic and alcoholic alkyl groups, and wherein the solid particulate filler is a functionalized filler selected from clays, synthetic fibers, aluminum hydroxide, calcium silicate, zinc oxide, glass fiber, silica, alumina and alumina-silica .

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8. (Previously presented) A composite material for sensing an analyte, comprising:
a polymer matrix; and

a solid particulate filler dispersed in the polymer matrix, the solid particulate filler having functional groups capable of interacting with the analyte, wherein the solid particulate filler is functionalized with hydrogen bond acidic groups, wherein the hydrogen bond acidic groups are selected from fluorinated phenols and fluorinated alcoholic alkyls, and wherein the solid particulate filler is a functionalized filler selected from clays, synthetic fibers, aluminum hydroxide, calcium silicate, zinc oxide, glass fiber, silica, alumina and alumina-silica.

9. (Canceled)

10. (Previously presented) A composite material for sensing an analyte, comprising:
a polymer matrix; and

a solid particulate filler dispersed in the polymer matrix, the solid particulate filler having functional groups capable of interacting with the analyte, wherein the solid particulate filler is functionalized with hydrogen bond basic groups, wherein the hydrogen bond basic groups are selected from amine groups, ether groups, cyano groups, nitrogen and oxygen heterocyclic groups, groups containing phosphorous-oxygen double bonds, groups containing a sulfoxide moiety, groups containing a sulfone moiety, groups containing a nitro moiety, and groups containing a nitroso moiety, and wherein the solid particulate filler is a functionalized filler selected from clays, synthetic fibers, aluminum hydroxide, calcium silicate, zinc oxide, glass fiber, silica, alumina and alumina-silica.

11-20. (Canceled)